

# Natural Flood Management (NFM) Symposium

Edinburgh Centre for Carbon Innovation, Edinburgh  
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**Julie Foley**

Director FCRM Strategy & National Adaptation  
Environment Agency



# The Environment Agency

*We work to create better places for people and wildlife, and support sustainable development.*





# Natural Flood Management Programme

- £15m announced
- Integrate NFM techniques in our 6 year programme
- £13.2m at Catchment Scale
- £1.8m Community lead





# The Aims

- Reduction in Flood and Coastal Erosion risk
- Improve habitats and increase biodiversity
- Contribute to Research & Development; reducing the evidence gap for NFM
- Promote partnership working





# Ministerial Involvement

- Minister Coffey has been involved in the process
- Her aspiration is that interventions are
  - Delivered at pace
  - Not over engineered
  - Community led
- This is about testing interventions and drawing conclusions from the data





# Types of Interventions

- A variety of interventions
- A range of catchment types
- Different methods of delivery
- Long term monitoring





# Natural Flood Management Projects

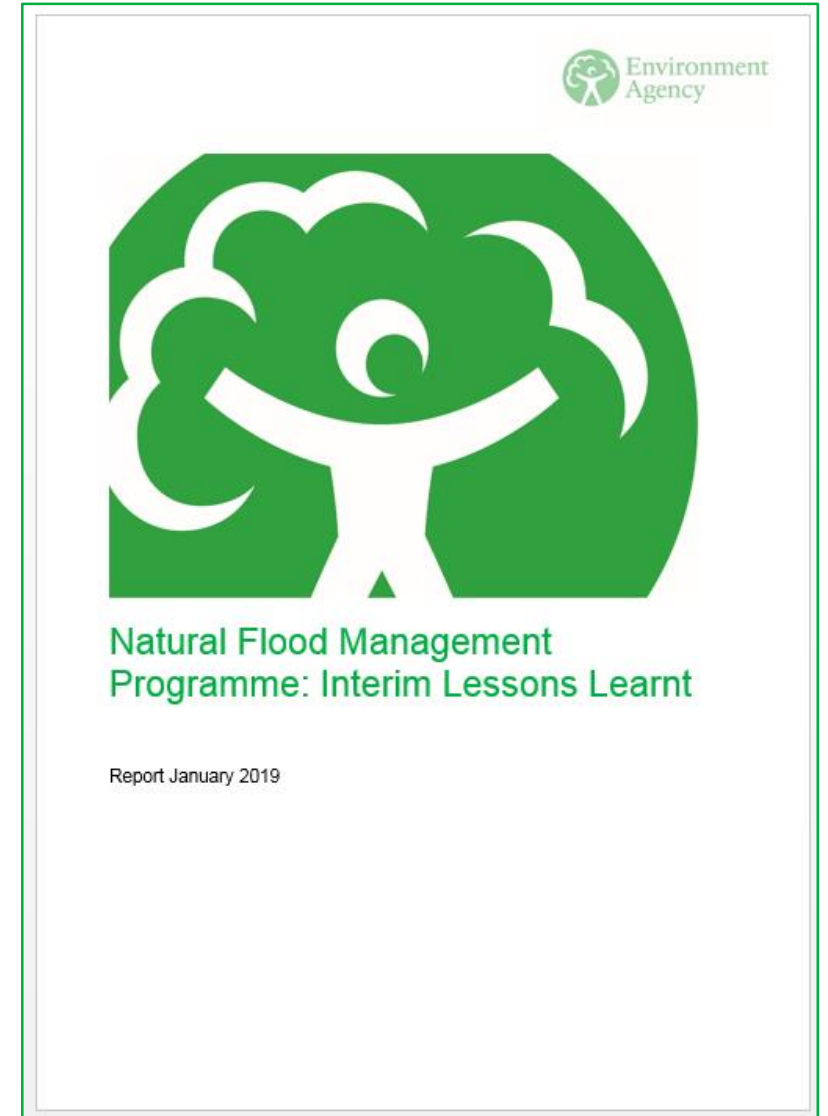


1. Alconbury
2. Bacton Sand Engine
3. Clothworkers Wood
4. Cumbria Floods Partnership Action Plans
5. Dartmoor Headwaters
6. Dorking FAS
7. Everside
8. Marine Pioneer - North Devon - Tew Torridge
9. Marine Pioneer - Suffolk - Slaughden
10. Medway NFM
11. NFM Interventions across ENS
12. North Yorkshire NFM - Beckstone Beck
13. North Yorkshire NFM - Brompton
14. North Yorkshire NFM - Upper Ure / Bishopdale
15. Radcliffe and Redvales
16. River Lugg and Wye Integrated
17. River Soar Tributaries
18. Shipston
19. Shropshire Slow the Flow - Severn Tilts
20. 'Slow the Flow' delivery in GMMC
21. Swaton Flood Resilience Scheme
22. Weardale NFM Demonstrator
23. Willaton Monk silver and Dunford catchments
24. Wootton Brook
25. Worcestershire Cotswold Escarpment Tributaries
- Community Projects**
26. Bishop's Wood NFM
27. Bourne Rivulet Restoration & Flood Management
28. Collingham Beck NFM
29. Derwent Villages
30. Filongley and River Bourne NFM
31. Havergate & Orford
32. Hawden Stream
33. Kenwith Valley NFM
34. Lowdham NFM
35. Lower River Crane Restoration
36. Northey Island Saltmarsh Regeneration
37. Ottery St. Mary
38. Pang Valley NFM
39. Papermill Dyke NFM
40. Pymmes Brook Deculverting
41. Rise Park Stream
42. River Leck Catchment NFM
43. River Pinn Park Woods
44. Rogenscale Floodplain Reconnection
45. Salmons Brook Natural Flood Management
46. Slowing the Flow - Upper Dane
47. Slowing the Flow - Upper Dean
48. SuDS in Sutton's Schools
49. Swallowfield Flood Relief
50. The Midgefield Brook Project
51. Teyver NFM
52. Upper Cohn NFM
53. Upper Piddle Headwaters
54. Wellingdon Catchment Management Scheme
55. Woodland and river management in two headwater streams
56. Wyre NFM
57. Yarrow Meadows
58. Yezzer Brook flood alleviation



# Interim Lessons Learnt Report

- Project teams require clarity on how projects proposals will be assessed.
- Timetables should not be fixed before practicalities are agreed with partners.
- Teams want information to assess and value the benefits and costs of NFM.
- Engagement is crucial to form and sustain partnerships needed for NFM.
- Engagement to clarify long responsibilities is critical.

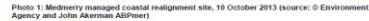




# Our Evidence Base



Author: Robert Harvey  
Main driver: Improved defences and habitat creation  
Project stage: Completed 2013



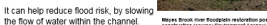
The Medmerry Mangrovenet Reclamation scheme in West Sussex (Photo 1) was identified in the Paphos to East Head Coastal Strategy (2009). The project came about through a combination of the need to improve flood risk management and the requirement of the Environment Agency's Regional Habitat Creation Scheme (2007) for the purchase of 100ha of new wetland. The project was funded by the Environment Agency for the project and constructed 6.2km of new relictated sea defences, fed into the existing shoreline with rock revetments. Additional land was contributed by RSPB.

The project provides a 1 in 100 year standard of defence in year 100 increased from a 1 in 1 year standard prior to implementation. It has 148 properties, the road serving Seaford and a waste water treatment plant. It has a 130ha of new wetland, 100ha of which was purchased from the Mitigation bank. It was also provided for 50ha of freshwater Site of Special Scientific Interest (SSSI) within and around the reclamation area. The project has increased recreation and tourism, creating new nature reserve and providing a new habitat for the RSPB. The project was managed by the Environment Agency and has been leased by the Environment Agency to RSPB for management as a nature reserve.



## Case studies

- River Avon
- Dorset Front
- Mayes Brook
- New Forest



## Summary

### Multiple Benefits

Summary	Benefits wheel	Monetary value estimate(s)
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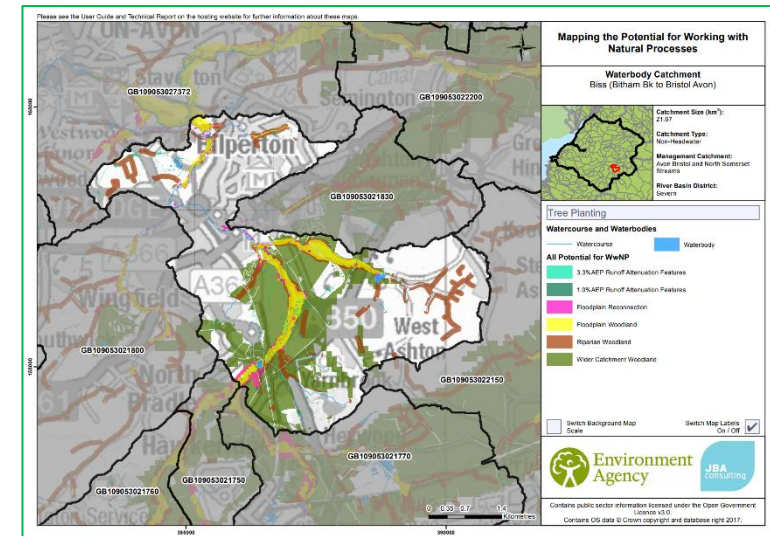
• Regeneration benefits of improving the river and surrounding park at Mayes Brook was valued at €7.5 million over 100 years, based on the uplift to property prices (Everard et al., 2011).

<p><b>Knowledge gaps</b></p> <p><b>Gaps:</b></p> <ul style="list-style-type: none"> <li>• limited fact-based evidence that demonstrates its food risk benefit</li> </ul>	<p><b>Key reading and maps</b></p> <p><b>Reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Gaps in knowledge to inform nutrition policy</a></li> </ul>
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- **FORA** benefits of different types of river restoration at different spatial scales
- Conveyance capacity of restored rivers

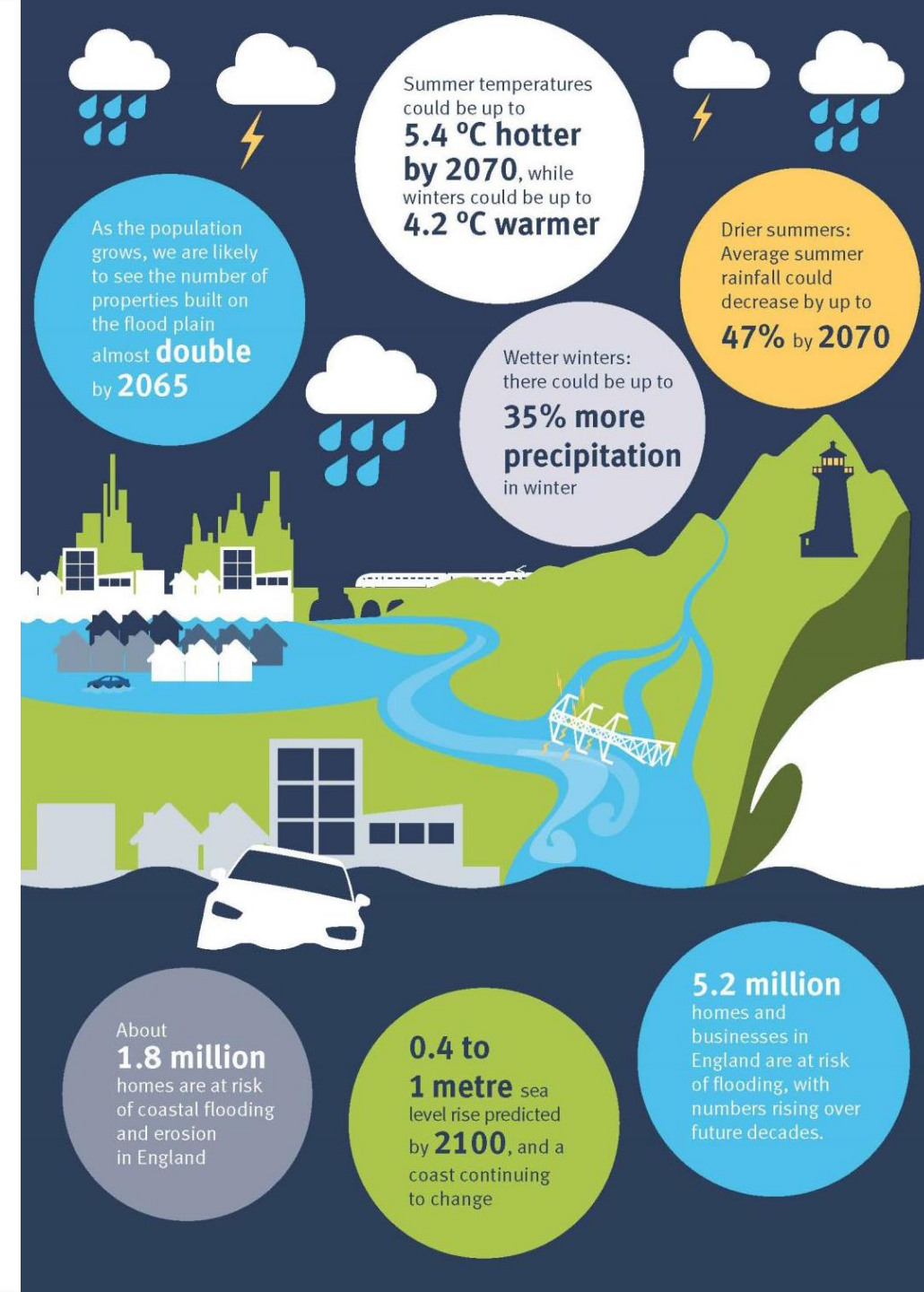
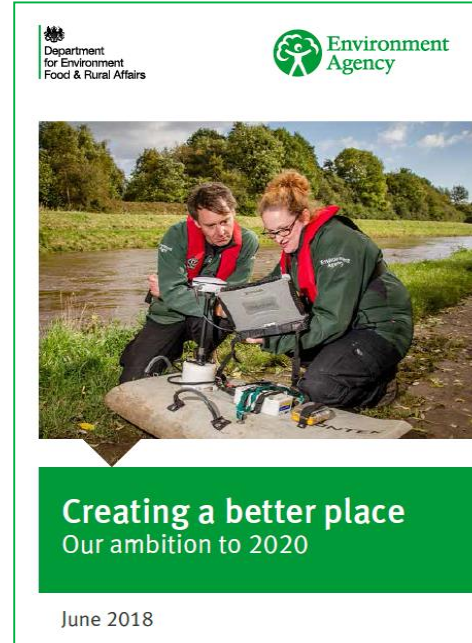
- [Foresight plans](#)
- [Strategic National Opportunity Maps \(England\)](#)
- [NPM Opportunity Maps \(Scotland\)](#)

Technology	Device status	References
<ul style="list-style-type: none"> <li>Mobile phone</li> <li>Mobile application</li> <li>Web application</li> <li>Text on tablet</li> <li>Web browser</li> </ul>	<p>For each device we took a screenshot of the mobile benefits that the research could provide using a benefits threat model and we took 10 benefit scenarios that fit a user scenario in a user point of view for a population of the research community the research can make to the provision of a certain benefit.</p>	<p>More details on the references and case studies discussed here can be found in the following documents:</p> <ul style="list-style-type: none"> <li>Threat model for cultural processes - Science Strategy</li> <li>Research - cooperation - Science Strategy</li> <li>Science Strategy</li> <li>Research - cooperation - Science Strategy</li> </ul>





# The opportunity and evidence





# Launch of the National FCERM Strategy consultation



[Consultation Hub](#)
[Find Consultations](#)
[We Asked, You Said, We Did](#)

## Draft National Flood and Coastal Erosion Risk Management Strategy for England

### Overview

Flooding of any kind is horrendous. Erosion destroys. Flooding events are dirty, invasive, damaging, and they can kill. They can force people to leave their homes and their businesses, cause prolonged mental ill health, destroy livelihoods and natural habitats.

The Environment Agency has been leading a conversation with people and organisations who are affected by or work to manage flooding and coastal change. We are now consulting on a draft strategy, which sets out a vision for a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100.

**Closes 4 Jul 2019**

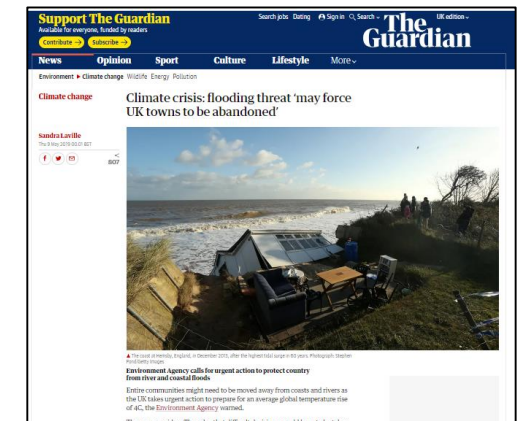
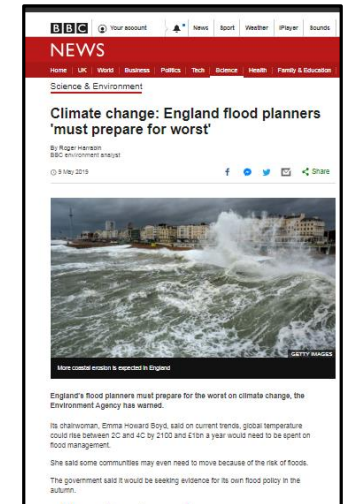
**Opened 9 May 2019**

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**Contact**

FCERM Strategy Team  
 03708 506 506  
[FCERMstrategy@environment-agency.gov.uk](mailto:FCERMstrategy@environment-agency.gov.uk)

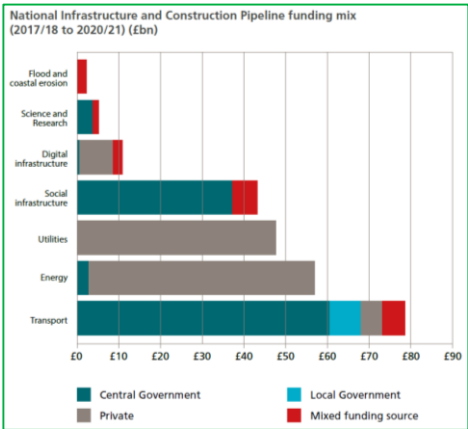
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# National FCERM strategy for England

*“A nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100.”*





# FCERM Strategy 2100 aspirations

## Climate resilient places



- Helping places plan and adapt to flooding and coastal change across a range of climate futures

## Today's growth and infrastructure resilient in tomorrow's climate



- Getting the right kind of development in the right places to deliver sustainable growth and infrastructure resilient to flooding and coastal change.

## A nation of climate champions



- Better preparing society through education and accessible digital information as well as being a world leader in flood and coastal resilience.



# Getting involved

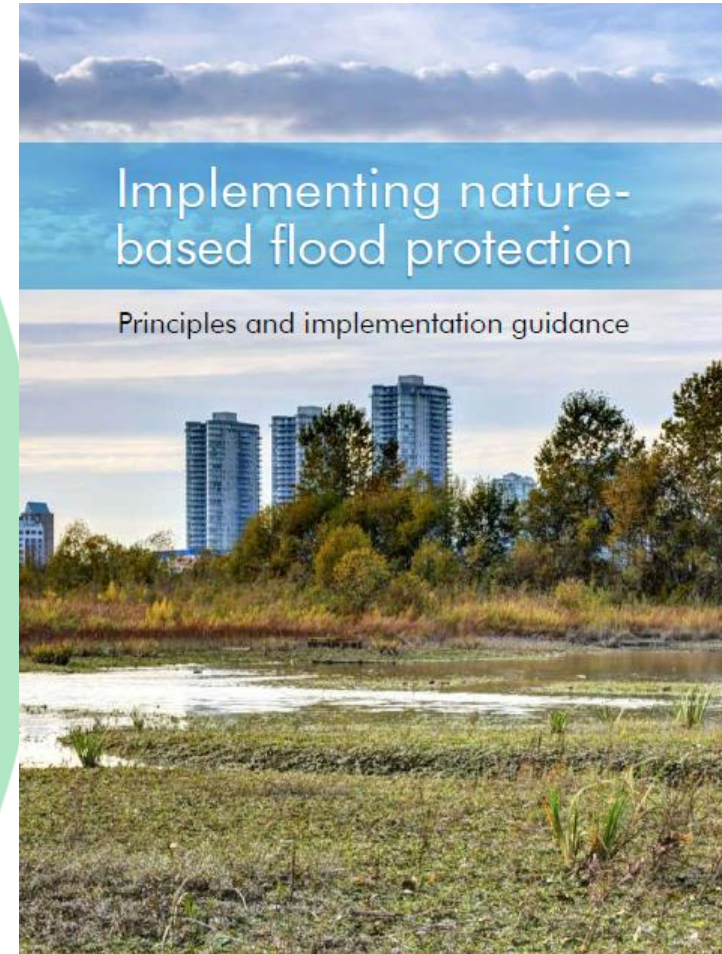
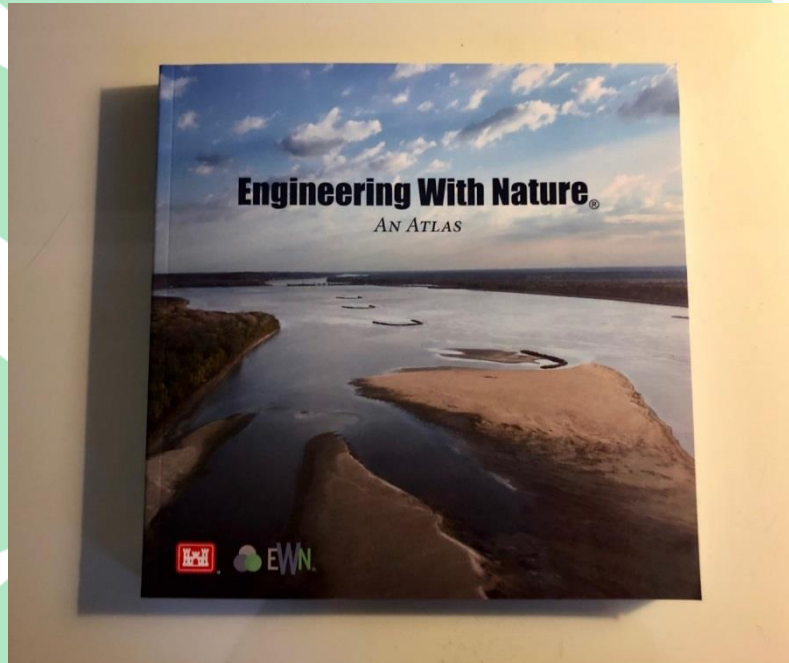
- Consultation materials published on GOV.UK on 9 May
- You can provide your feedback through the online consultation tool or by e-mailing:

[fcermstrategy@environment-agency.gov.uk](mailto:fcermstrategy@environment-agency.gov.uk)





# Next steps





# Thank you and questions

**Julie Foley**

Director FCRM Strategy & National Adaptation  
Environment Agency

